

In the Claims

Please AMEND the claims as follows:

Please CANCEL claims 8, 22, 28, and 37.

1. (Currently Amended) A method of controlling the distribution of traffic flow in a load-sharing redundancy group comprising a set of gateway devices including a first gateway device and a second gateway device which forward packets sent from hosts, the method comprising:

assigning a first plurality of forwarding addresses to the first gateway device;

assigning a second plurality of forwarding addresses to the second gateway device;

measuring the traffic flow for each of the assigned forwarding addresses; and

adjusting the traffic flow by changing allocation of the forwarding addresses based upon the measured traffic flow;

wherein the load-sharing redundancy group provides failover services in the event that one of the gateway devices ceases operation;

wherein the first gateway device actively forwards packets addressed to the first plurality of forwarding addresses and the second gateway device actively forwards packets addressed to the second plurality of forwarding addresses.

2. (Previously Presented) The method of Claim 1 wherein each forwarding address is a Media Access Control (MAC) address.

3. (Previously Presented) The method of Claim 2 wherein each MAC address is a virtual Media Access Control (vMAC) address.

4. (Original) The method of Claim 1 wherein adjusting the traffic flow comprises altering the distribution of forwarding addresses to hosts.

5. (Currently Amended) The method of Claim 4 wherein altering the distribution of forwarding addresses to hosts comprises ~~replying~~ sending a reply in response to an Address Resolution Protocol (ARP) ~~inquiries~~ inquiry from at least one of the hosts, the reply instructing ~~such that the at least one of the hosts are instructed~~ to use a forwarding address having the lowest measured traffic flow on one of the set of gateway devices, the one of the set of gateway devices having the lowest measured traffic flow, wherein the forwarding address is one of the first plurality of forwarding addresses or one of the second plurality of forwarding addresses.

6. (Original) The method of Claim 1 wherein adjusting the traffic flow comprises re-assigning a forwarding address to a different gateway device.

7. (Original) The method of Claim 1 wherein the first gateway device is a first router and the second gateway device is a second router.

8. (Cancelled)

9. (Previously Presented) The method of Claim 1, further comprising:

comparing the measured traffic flow to a target traffic flow;

wherein the target traffic flow is equal distribution of traffic across the first gateway device and the second gateway device and further wherein adjusting the traffic flow comprises adjusting the traffic flow across the first gateway device and the second gateway device to more equally distribute the measured traffic flow between the first gateway device and the second gateway device.

10. (Currently Amended) A method of controlling traffic flow in a load-sharing redundancy group comprising a set of gateway devices including a first gateway device and a second gateway device which forward packets sent from hosts, the method comprising:

assigning a first address set to the first gateway device, wherein the first address set comprises a plurality of forwarding addresses, further wherein the first gateway device forwards packets sent by hosts and addressed to forwarding addresses in the first address set;

assigning a second address set to the second gateway device, wherein the second address set comprises a plurality forwarding addresses, further wherein the second gateway device forwards packets sent by hosts and addressed to forwarding addresses in the second address set;

measuring the traffic flow to each forwarding address;

adjusting the measured traffic flow by changing allocation of the forwarding addresses based upon the measured traffic flow;

wherein the load-sharing redundancy group provides failover services in the event that one of the gateway devices ceases operation.

11. (Previously Presented) The method of Claim 10 wherein adjusting the traffic flow comprises instructing a host to use the assigned forwarding address having the lowest measured traffic flow on one of the set of gateway devices, the one of the set of gateway devices having the lowest measured traffic flow.

12. (Previously Presented) The method of Claim 10 wherein the forwarding addresses are virtual Media Access Control (vMAC) addresses.

13. (Original) The method of Claim 10 wherein the first gateway device is a first router and the second gateway device is a second router.

14. (Original) The method of Claim 10 wherein adjusting the traffic flow comprises re-assigning one of the forwarding addresses from the first address set to the second address set.

15. (Currently Amended) A computer readable medium encoded with instructions executable by a computer, the instructions specifying a method of controlling traffic flow in a load-sharing redundancy group comprising a set of gateway devices including a first gateway device and a second gateway device which forward packets from hosts, the method comprising:

assigning a first plurality of forwarding addresses to the first gateway device, further wherein the first gateway device forwards packets sent by hosts and addressed to the first plurality of forwarding addresses;

assigning a second plurality of forwarding addresses to the second gateway device, further wherein the second gateway device forwards packets sent by hosts and addressed to the second plurality of forwarding addresses;

measuring the traffic flow for each of the assigned forwarding addresses; and

adjusting the traffic flow by changing allocation of the forwarding addresses based upon the measured traffic flow;

wherein the load-sharing redundancy group provides failover services in the event that one of the gateway devices ceases operation;

wherein the first gateway device actively forwards packets and the second gateway device actively forwards packets simultaneous with the first gateway device.

16. (Previously Presented) The computer readable medium of Claim 15 wherein the load-sharing redundancy group implements Cisco Gateway Load Balancing Protocol (GLBP) and further wherein the first gateway device is a first router and the second gateway device is a second router.

17. (Previously Presented) The computer readable medium of Claim 15 wherein each forwarding address is a Media Access Control (MAC) address.

18. (Previously Presented) The computer readable medium of Claim 17 wherein each Media Access Control (MAC) address is a virtual Media Access Control (vMAC) address.

19. (Previously Presented) The computer readable medium of Claim 15 wherein adjusting the traffic flow comprises altering the distribution of forwarding addresses to hosts.

20. (Previously Presented) The computer readable medium of Claim 19 wherein altering the distribution of forwarding addresses to hosts comprises replying to Address Resolution Protocol (ARP) inquiries from hosts using the forwarding address having the lowest measured traffic flow on one of the set of gateway devices, the one of the set of gateway devices having the lowest measured traffic flow.

21. (Previously Presented) The computer readable medium of Claim 15 wherein adjusting the traffic flow comprises re-assigning a forwarding address to a different gateway device.

22. (Cancelled)

23. (Previously Presented) The computer readable medium of Claim 15, the method further comprising:

comparing the measured traffic flow to a target traffic flow;

wherein the target traffic flow is equal distribution of traffic across the first gateway device and the second gateway device and further wherein adjusting the traffic flow comprises adjusting the traffic flow across the first gateway device and the second gateway device to more equally distribute the measured traffic flow between the first gateway device and the second gateway device.

24. (Currently Amended) An apparatus for controlling traffic flow in a load-sharing redundancy group comprising a set of gateway devices including a first gateway device and a second gateway device which forward packets sent from hosts, the apparatus comprising:

means for assigning a first plurality of forwarding addresses to the first gateway device, further wherein the first gateway device forwards packets sent by hosts and addressed to the first plurality of forwarding addresses;

means for assigning a second plurality of forwarding addresses to the second gateway device, further wherein the second gateway device forwards packets sent by hosts and addressed to the second plurality of forwarding addresses;

means for measuring the traffic flow for each of the assigned forwarding addresses; and

means for adjusting the traffic flow by changing allocation of the forwarding addresses based upon the measured traffic flow;

wherein the load-sharing redundancy group provides failover services in the event that one of the gateway devices ceases operation,

wherein the first gateway device is capable of actively forwarding packets simultaneous with the second gateway device, and the second gateway device is capable of actively forwarding packets simultaneous with the first gateway device.

25. (Original) The apparatus of Claim 24 wherein the means for adjusting the traffic flow comprises means for altering the distribution of forwarding addresses to hosts.

26. (Previously Presented) The apparatus of Claim 25 wherein the means for altering the distribution of forwarding addresses to hosts comprises means for replying to Address Resolution Protocol (ARP) inquiries from hosts such that the hosts are instructed to use the forwarding address having the lowest measured traffic flow on one of the set of gateway devices, the one of the set of gateway devices having the lowest measured traffic flow.

27. (Original) The apparatus of Claim 24 wherein the means for adjusting the traffic flow comprises means for re-assigning a forwarding address to a different gateway device.

28. (Cancelled).

29. (Previously Presented) The apparatus of Claim 24, further comprising:

means for comparing the measured traffic flow to a target traffic flow;

wherein the target traffic flow is equal distribution of traffic across the first gateway device and the second gateway device and further wherein the means for adjusting the traffic flow comprises means for adjusting the traffic flow across the first gateway device and the second gateway device to more equally distribute the measured traffic flow between the first gateway device and the second gateway device.

30. (Currently Amended) A primary gateway device controlling traffic flow in a load-sharing redundancy group comprising a set of gateway devices including the primary gateway device and a second gateway device which forward packets sent from hosts, the primary gateway device comprising:

one or more processors;

a memory in communication with at least one of the processors, wherein at least one of the processors and the memory:

assign a first plurality of forwarding addresses to the primary gateway device, further wherein the primary gateway device forwards packets sent by hosts and addressed to the first plurality of forwarding addresses;

assign a second plurality of forwarding addresses to the second gateway device, further wherein the second gateway device forwards packets sent by hosts and addressed to the second plurality of forwarding addresses;

measure the traffic flow for each of the assigned forwarding addresses in the primary gateway device and the second gateway device; and

adjust the traffic flow by changing allocation of the forwarding addresses;

wherein the load-sharing redundancy group provides failover services in the event that one of the gateway devices ceases operation;

wherein the first gateway device is capable of actively forwarding packets simultaneous with the second gateway device, and the second gateway device is capable of actively forwarding packets simultaneous with the first gateway device.

31. (Previously Presented) The primary gateway device of Claim 30 wherein each forwarding address is a Media Access Control (MAC) address.

32. (Previously Presented) The primary gateway device of Claim 31 wherein each Media Access Control (MAC) address is a virtual Media Access Control (vMAC) address.

33. (Original) The primary gateway device of Claim 30 wherein adjusting the traffic flow comprises altering the distribution of forwarding addresses to hosts.

34. (Currently Amended) The primary gateway device of Claim 33 wherein altering the distribution of forwarding addresses to hosts comprises replying to Address Resolution Protocol (ARP) inquiries from hosts, wherein replying includes instructing ~~such that the hosts are instructed~~ to use the forwarding address having the lowest measured traffic flow on one of the set of gateway devices, the one of the set of gateway devices having the lowest measured traffic flow.

35. (Original) The primary gateway device of Claim 30 wherein adjusting the traffic flow comprises re-assigning a forwarding address to a different gateway device.

36. (Original) The primary gateway device of Claim 30 wherein the primary gateway device is a first router and the second gateway device is a second router.

37. (Cancelled)

38. (Previously Presented) The primary gateway device of Claim 30, wherein at least one of the processors and the memory:

compare the measured traffic flow to a target traffic flow;

wherein the target traffic flow is equal distribution of traffic across the primary gateway device and the second gateway device and further wherein adjusting the traffic flow comprises adjusting the traffic flow across the primary gateway device and the second gateway device to more equally distribute the measured traffic flow between the primary gateway device and the second gateway device.

39. (Currently Amended) A primary gateway device controlling traffic flow in a load-sharing redundancy group comprising a set of gateway devices including the primary gateway device and a second gateway device which forward packets sent from hosts, the gateway device comprising:

one or more processors;

a memory in communication with at least one of the processors, wherein at least one of the processors and the memory:

assign a first address set to the primary gateway device, wherein the first address set comprises a plurality of forwarding addresses, further wherein the primary gateway device forwards packets sent by hosts and addressed to forwarding addresses in the first address set;

assign a second address set to the second gateway device, wherein the second address set comprises a plurality forwarding addresses, further wherein the second gateway device forwards packets sent by hosts and addressed to forwarding addresses in the second address set;

measure the traffic flow to each forwarding address; and

adjust the measured traffic flow by changing allocation of the forwarding addresses;

wherein the load-sharing redundancy group provides failover services in the event that one of the gateway devices ceases operation;

wherein the first gateway device is capable of actively forwarding packets simultaneous with the second gateway device, and the second gateway device is capable of actively forwarding packets simultaneous with the first gateway device.

40. (Previously Presented) The primary gateway device of Claim 39 wherein adjusting the traffic flow comprises instructing a host to use the assigned forwarding address having the lowest measured traffic flow on one of the set of gateway devices, the one of the set of gateway devices having the lowest measured traffic flow.

41. (Previously Presented) The primary gateway device of Claim 39 wherein the forwarding addresses are virtual Media Access Control (vMAC) addresses.

42. (Original) The primary gateway device of Claim 39 wherein the primary gateway device is a first router and the second gateway device is a second router.

43. (Original) The primary gateway device of Claim 39 wherein adjusting the traffic flow comprises re-assigning one of the forwarding addresses from the first address set to the second address set.

44. (Previously Presented) The method as recited in claim 1, further comprising:
identifying one of the set of gateway devices having the lowest traffic flow; and

identifying a forwarding address associated with the identified gateway device, wherein the identified forwarding address has the lowest measured traffic flow of all forwarding addresses associated with the identified gateway device.

45. (Previously Presented) The method as recited in claim 1, wherein adjusting the traffic flow is performed based upon the measured traffic flow for at least a portion of the assigned forwarding addresses.

46. (Previously Presented) The method as recited in claim 1, wherein adjusting the traffic flow is performed based upon the measured traffic flow for each of the assigned forwarding addresses.

47. (Currently Amended) The method as recited in claim 1, wherein adjusting the traffic flow comprises:

re-assigning at least one of the first plurality of forwarding addresses to the second gateway device, wherein after re-assigning the at least ~~such that the~~ one of the first plurality of forwarding addresses is no longer assigned to the first gateway device.

Please ADD new claims as follows:

48. (New) The method as claim 10, wherein the first gateway device is capable of actively forwarding packets simultaneous with the second gateway device, and wherein the second gateway device is capable of actively forwarding packets simultaneous with the first gateway device.

49. (New) The primary gateway device as recited in claim 30, wherein the primary gateway device operates as an Active Virtual Forwarder in accordance with the Gateway Load Balancing Protocol.

50. (New) The method as recited in claim 1, wherein the first gateway device and the second gateway device each operate as an Active Virtual Forwarder in accordance with the Gateway Load Balancing Protocol.

51. (New) The method as recited in claim 10, wherein the first gateway device and the second gateway device each operate as an Active Virtual Forwarder in accordance with the Gateway Load Balancing Protocol.